

R E M A R K SStatus of the Claims

Claims 13-20 are pending in this application. No claims have been canceled. Claims 16-20 have been added. Claim 13 has been amended to recite that the organic peroxide is in an amount from 0.5 to 1.0 parts by weight. Claim 15 has been amended to recite that the organic peroxide is percumyl peroxide. Support for the amended claims and new claims is found at page 7, lines 20-23 and Table 2. No new matter has been added by the above new claims.

Rejections under 35 USC 103(a)

The Examiner rejects claims 13-15 as obvious over WO 95/15995 (WO '995), Tatemoto et al. USP 4,530,972 (Tatemoto '972) or Albano et al. USP 5,948,868 (Albano '868) in combination with Applicants own teachings. Applicants traverse the rejection and respectfully request the withdrawal thereof.

Applicants present claim amendments to recite that the present invention is directed to a process for producing a cured molded article comprising or consisting essentially of the step of primarily curing a fluororubber composition comprising: 100 parts by weight of a fluororubber which is curable with an organic peroxide, 0.1 to 10 parts by weight of a polyfunctional unsaturated compound, and 0.5 to 1.0 parts by weight of an

organic peroxide selected from the group consisting of dicumyl peroxide, tert.-butylcumyl peroxide and di-tert.-butyl peroxide, at a temperature of 150 to 190°C for 0.1 to 1 hour, preferably dicumyl peroxide, wherein the total amount of acetone and tert.-butanol contained in the decomposed products of one mole of said organic peroxide, which are generated at a curing temperature, is 2 moles or less.

WO '995, Tatemoto '972 and Albano '686 each disclose a primary curing step and a secondary curing step. In addition, the specific amount of the peroxide used in the claimed invention is not disclosed or suggested by the cited references. As such, Applicants respectfully submit that no *prima facie* case of obviousness has been established. Thus, the rejection should be withdrawn on this basis alone.

Applicants also submit that the present invention yields unexpected superior properties over a molded product of the prior art. In the present invention when the specific organic peroxide is used in the specifically recited amount, the cured product obtained has superior physical properties in good balance from only the primary curing step. No secondary curing step is necessary to produce a product with the desired properties. This is evidenced from the comparative data in Table 2 in the specification. Please note, particularly, Examples 1 and 2 in Table 2. The cited references are more similar to the comparative examples in Table 2.

Moreover, Applicants submit that the cited prior art fails to disclose or suggest obtaining a cured product that has the superior properties exemplified by Examples 1 and 2 in Table 2 from just a primary curing step. Moreover, the cited references fail to disclose or suggest the process of making a cured product with 0.5 to 1.0 parts by weight of the specific organic peroxide, preferably dicumyl peroxide. Although percumyl D is disclosed in WO '995, Tatemoto '972 and Albano '686, each of these references uses percumyl D in amounts that are outside the claimed range. Please see Examples 1 and 2 and Comparative Examples 4 and 5 in the present specification where Examples 1 and 2 use percumyl D in amounts that are within the claimed range and Comparative Examples 4 and 5 use percumyl D in amounts that are outside the claimed range. All other components in the examples are the same. Examples 1 and 2 have far superior qualities after just primary curing.

Please see Table 2 in the specification to compare the values of $[(CS_1 - CS_2) / CS_2] \times 100$, which is the criterion for the contribution of secondary curing. The results show that the contribution of secondary curing is very small in Examples 1 and 2. Thus, it can be concluded that primary curing was sufficient to produce a molded article that is suitable having the excellent properties. No secondary curing step is necessary with the present invention. On the other hand, Comparative Examples 4 and 5 did not exhibit the superior properties.

Furthermore, in Examples 3, 4 and 5, where the amount of peroxide was from 0.5 to 1.0 parts by weight, excellent results are also demonstrated. In Examples 3, 4 and 5 the contribution of a secondary curing was very small. Also, the compression set after primary curing was small. On the other hand, in the Comparative Examples, even if the compression set after primary curing was small, the contribution of secondary curing was still always great. Therefore, the Comparative Examples would have to undergo a secondary curing to be as effective in a molded product, O-ring, as the Examples representing the present invention. With the Comparative Examples, the products must be secondarily cured to achieve the desired physical properties, yet such properties as the compression set may vary over time. This is not a desired result.

As such, the comparative results show that the contribution of secondary curing is large; thus, a secondary curing step is necessary to obtain the superior properties of the present invention. The cured products obtained when using the organic peroxide outside the claimed range and when there is only primary curing the products are not sufficient for appropriate use.

Applicants submit that the data in Table 2 clearly shows that the processes disclosed in the cited art are not equivalent to the processes in the present invention. These results were unexpected. As such, Applicants submit that neither WO '995, Tatemoto '972 nor Albano '686 makes obvious the present invention. Thus, Applicants respectfully request that this rejection be withdrawn.

Conclusion

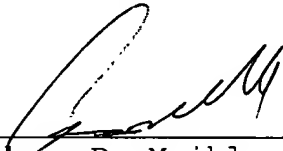
As Applicants have addressed and overcome all rejections in the Office Action, Applicants respectfully request that the rejections be withdrawn and that the claims be allowed.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Kecia Reynolds (Reg. No. 47,021) at the telephone number of the undersigned below.


If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By 

Andrew D. Meikle, #32,868


ADM/KJR:bmp
0020-4621P

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000

(Rev. 02/12/2004)